

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of managing stored data in a storage management system, the storage management system including a storage manager, a media agent connected to the storage manager, and a primary volume connected to the media agent, the method comprising:
taking a first snapshot of the primary volume in accordance with a predefined policy, the policy comprising one or more parameters for creating a quick recovery volume;
indexing the first snapshot by associating respective information with the snapshot;
~~copying the indexed snapshot to a secondary volume; and~~
~~repeating the taking, indexing, and copying steps for a plurality of snapshots~~ a second snapshot, in accordance with the predefined policy[[,]]; selecting the first or second snapshot for copying to a corresponding quick recovery volume;
performing a block-level copy of the selected snapshot to the corresponding quick recovery volume; and
deleting the selected snapshot after the block-level copy is complete.
~~wherein the snapshot of the primary volume comprises at least one file that has not been~~
~~modified since the creation of a previous snapshot of the primary volume.~~
2. (Original) The method as recited in claim 1, further comprising displaying the snapshots to a user.
3. (Previously Presented) The method as recited in claim 2, wherein the displaying further includes displaying at least one of a respective date of creation of each snapshot, a respective persistence of each snapshot, and a respective location of each snapshot.
4. (Original) The method as recited in claim 2, wherein the displaying includes displaying the snapshots to the user in a hierarchical format.

5. (Original) The method as recited in claim 1, further comprising associating each respective snapshot with a corresponding application.

6. (Original) The method as recited in claim 5, further comprising displaying to a user a respective one of the snapshots in a screen corresponding to the respective application.

7. (Original) The method as recited in claim 4, further comprising:
enabling the user to select a least one of the snapshots for restoration; and
restoring the at least one snapshot selected by the user.

8. (Previously Presented) The method as recited in claim 2, further comprising
enabling the user to delete a selected one of the snapshots.

9. (Original) The method as recited in claim 1, further comprising deleting a snapshot after a defined period of time.

10. (Currently Amended) A computer readable medium including computer executable code for managing stored data in a storage management system, the storage management system including a storage manager, a media agent connected to the storage manager, and a primary volume connected to the media agent, the code enabling the steps of:

taking a first snapshot of the primary volume in accordance with a predefined policy, the policy comprising one or more parameters for creating a corresponding quick recovery volume;
indexing the first snapshot by associating respective information with the snapshot;
~~copying the indexed snapshot to a secondary volume; and~~
~~repeating the taking, indexing, and copying steps for a plurality of snapshots a second snapshot,~~ in accordance with the predefined policy[.];
selecting the first or second snapshot for copying to a corresponding quick recovery volume;

performing a block-level copy of the selected snapshot to the corresponding quick recovery volume; and
deleting the selected snapshot after the block-level copy is complete.
~~wherein the snapshot of the primary volume comprises at least one file that has not been modified since the creation of a previous snapshot of the primary volume.~~

11. (Withdrawn) A method for replacing data in a primary volume stored at a first device identified by a first logical unit number with data in a recovery volume stored at a second device identified by a second logical unit number, the method comprising:

updating a memory to indicate that the primary volume is no longer identified by the first logical unit number;

updating the memory to indicate that the recovery volume is no longer identified by the second logical unit number; and

updating the memory to indicate that the recovery volume is identified by the first logical unit number,

wherein the recovery volume comprises a plurality of snapshots of the primary volume.

12. (Withdrawn) The method as recited in claim 11, wherein metadata associated with primary volume is maintained in association with the first logical unit number.

13. (Withdrawn) The method as recited in claim 11, where input and output to both the recovery and primary volumes is suspended during the updating steps.

14. (Currently Amended) A method for periodically copying changing data on a primary volume, the method comprising:

capturing a first snapshot of data in a primary volume in accordance with a predefined policy, the first snapshot being a block level copy of the data in the primary volume and the policy comprising one or more parameters for creating a quick recovery volume;

storing the first snapshot;

in accordance with at least a second criteria specified in the policy, monitoring for a change
in any one of the blocks stored in the first snapshot; and

storing a copy of a particular block when the monitoring determines that there was a change
in the particular block from the first snapshot[[],]

selecting the first snapshot for copying to a corresponding quick recovery volume; and
performing a block-level copy of the selected snapshot to the corresponding quick recovery
volume.

~~wherein the snapshot of the primary volume comprises at least one file that has not been
modified since the creation of a previous snapshot of the primary volume.~~

15. (Original) The method as recited in claim 14, further comprising:

producing a copy of the primary volume using the first snapshot and any copies of blocks
that changed after the first snapshot, after at least one block has changed since the
first snapshot.

16. (Currently Amended) A method for producing a copy of a primary volume produced
by the steps of, comprising:

capturing a first snapshot of data in a primary volume in accordance with a predefined
policy, the first snapshot being a block level copy of the data in the primary volume
and the policy comprising one or more parameters for creating a quick recovery
volume;

storing the first snapshot;

in accordance with at least a second criteria specified in the policy, monitoring for a change
in any one of the blocks stored in the first snapshot;

storing a copy of a particular block when the monitoring determines that there was a change
in the particular block from the first snapshot; and

producing a copy of the primary volume using the first snapshot and any copies of blocks that changed after the first snapshot, after at least one block has changed since the first snapshot[.];

selecting the first snapshot for copying to a corresponding quick recovery volume;

performing a block-level copy of the selected snapshot to the corresponding quick recovery volume; and

deleting the selected snapshot after the block-level copy is complete.

~~wherein the snapshot of the primary volume comprises at least one file that has not been modified since the creation of a previous snapshot of the primary volume.~~

17. (Currently Amended) A method of managing stored data in a storage management system, the storage management system including a storage manager, a media agent connected to the storage manager, and a primary volume connected to the media agent, the method comprising:

taking a first snapshot of the primary volume in accordance with a predefined policy, the policy comprising one or more parameters for creating a quick recovery volume;

identifying characteristics associated with the first snapshot; and

storing the characteristics in an index[.];

selecting the first snapshot for copying to a corresponding quick recovery volume; and

performing a block-level copy of the selected snapshot to the corresponding quick recovery volume,

~~wherein the snapshot of the primary volume comprises at least one file that has not been modified since the creation of a previous snapshot of the primary volume.~~

18. (Previously Presented) The method of managing stored data in a storage management system of claim 1, wherein the one or more parameters for creating a quick recovery volume comprise a destination volume parameter of the quick recovery volume.

19. (Currently Amended) The method of managing stored data in a storage management system of claim 1, wherein the one or more parameters for creating a quick recovery volume comprise a persistence parameter ~~of the quick recovery volume~~ provided in the policy.

20. (Previously Presented) The method of managing stored data in a storage management system of claim 1, wherein the one or more parameters for creating a quick recovery volume comprise a data pruning parameter ~~of the quick recovery volume~~ provided in the policy.

21. (New) A method of managing stored data in a storage management system, the storage management system including a storage manager, a media agent connected to the storage manager, and a primary volume connected to the media agent, the method comprising:

taking a first snapshot of the primary volume in accordance with a predefined policy, the policy comprising one or more parameters for creating a corresponding quick recovery volume;

indexing the first snapshot by associating respective information with the snapshot;

taking a second snapshot, in accordance with the predefined policy;

displaying a user interface comprising levels of available snapshots and quick recovery volumes;

receiving from a user a selection of a displayed level; and

recovering portions of data at the selected level and any level below the selected level.

22. (New) The method of claim 21, wherein the displayed user interface comprises multiple hierarchical levels of available snapshots and quick recovery volumes.